United Nations S/2017/234

Security Council

Distr.: General
20 March 2017

Original: English

Note by the President of the Security Council

At its 7488th meeting, held on 20 July 2015 in connection with the item entitled "Non-proliferation", the Security Council adopted resolution 2231 (2015).

In paragraph 4 of the resolution, the Security Council requested the Director General of the International Atomic Energy Agency to provide regular updates to the Council on the implementation by the Islamic Republic of Iran of its commitments under the Joint Comprehensive Plan of Action and to report at any time any issue of concern directly affecting the fulfilment of those commitments.

Accordingly, the President herewith circulates the report of the Director General dated 24 February 2017 (see annex).

17-04474 (E) 240317

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Annex

Letter dated 24 February 2017 from the Director General of the International Atomic Energy Agency addressed to the President of the Security Council

I have the honour to enclose herewith the document submitted to the Board of Governors of the International Atomic Energy Agency (see enclosure).

I should be grateful if you would bring the present letter and the enclosed document to the attention of all members of the Security Council.

(*Signed*) Yukiya **Amano**

Enclosure

[Original: Arabic, Chinese, English, French, Russian and Spanish]

Verification and monitoring in the Islamic Republic of Iran in light of United Nations Security Council resolution 2231 (2015)

Report by the Director General

A. Introduction

1. This report of the Director General to the Board of Governors and, in parallel, to the United Nations Security Council (Security Council), is on the Islamic Republic of Iran's (Iran's) implementation of its nuclear-related commitments under the Joint Comprehensive Plan of Action (JCPOA) and on matters related to verification and monitoring in Iran in light of Security Council resolution 2231 (2015). It also provides information on financial matters, and the Agency's consultations and exchanges of information with the Joint Commission, established by the JCPOA.

B. Background

2. On 14 July 2015, China, France, Germany, the Russian Federation, the United Kingdom, the United States of America, with the High Representative of the European Union for Foreign Affairs and Security Policy (E3/EU+3) and Iran agreed on the JCPOA. On 20 July 2015, the Security Council adopted resolution 2231 (2015), in which, inter alia, it requested the Director General to "undertake the necessary verification and monitoring of Iran's nuclear-related commitments for the full duration of those commitments under the JCPOA".[1] In August 2015, the Board of Governors authorized the Director General to implement the necessary verification and monitoring of Iran's nuclear-related commitments as set out in the JCPOA, and report accordingly, for the full duration of those commitments in light of Security Council resolution 2231 (2015), subject to the availability of funds and consistent with the Agency's standard safeguards practices. The Board of Governors also authorized the Agency to consult and exchange information with the Joint Commission, as set out in GOV/2015/53 and Corr.1.

3. In letters dated 21 December 2016 and 11 January 2017, the Coordinator of the Joint Commission transmitted to the Agency nine documents, which have been endorsed by all participants of the Joint Commission, providing clarifications for the implementation of Iran's nuclear-related measures as set out in the JCPOA for its duration. The Coordinator requested the Director General to share these documents with Member States for information.[2]

[1] The actions requested of the Director General by the Security Council as contained in resolution 2231 (2015) are set out in GOV/2015/53 and Corr.1, para. 8.

[2] Reproduced in INFCIRC/907 and INFCIRC/907/Add.1.

4. The estimated annual cost to the Agency for the implementation of Iran's Additional Protocol and for verifying and monitoring Iran's nuclear-related commitments as set out in the JCPOA is €9.2 million per annum. As implementation of the JCPOA began on 16 January 2016, the funding requirement for 2016 was estimated at €8.8 million. By the end of 2016, €8.5 million had been expended. As of 21 February 2017, €13.7 million had been pledged by Member States as extrabudgetary contributions for JCPOA-related activities. The balance of €5.2 million between what has been pledged and what has been spent will contribute towards the €6.2 million of extrabudgetary funding required for 2017.[3]

C. JCPOA Verification and Monitoring Activities

5. Since 16 January 2016 (JCPOA Implementation Day), the Agency has verified and monitored Iran's implementation of its nuclear-related commitments under the JCPOA,[4,5] and reports the following for the period since the issuance of the Director General's previous quarterly report.[6]

C.1. Activities Related to Heavy Water and Reprocessing

6. Iran has not pursued the construction of the existing Arak heavy water research reactor (IR 40 Reactor) based on its original design.[7] Iran has not produced or tested natural uranium pellets, fuel pins or fuel assemblies specifically designed for the support of the IR-40 Reactor as originally designed, and all existing natural uranium pellets and fuel assemblies have remained in storage under continuous Agency monitoring (paras 3 and 10).[8]

7. Iran has continued to inform the Agency about the inventory of heavy water in Iran and the production of heavy water at the Heavy Water Production Plant (HWPP)[9] and allowed the Agency to monitor the quantities of Iran's heavy water stocks and the amount of heavy water produced at the HWPP (para. 15). As previously reported,[10] on 8 November 2016, the Agency verified that Iran's stock of heavy water had reached 130.1 metric tonnes (para. 14).[11] As also previously reported,[12] on 21 November 2016, Iran informed the Agency that 11 metric tonnes of nuclear grade heavy water had been shipped out of Iran on 19 November 2016 and, on 6 December 2016, the Agency verified the quantity of 11 metric tonnes of

[3] €3.0 million, relating specifically to the provisional application of Iran's Additional Protocol, is being met from the regular budget (GC(60)/2).
[4] GOV/INF/2016/8, para. 6.
[5] Note by the Secretariat, 2016/Note 5.
[6] GOV/2016/55.
[7] The calandria was removed from the reactor and rendered inoperable during preparation for Implementation Day and has been retained in Iran (GOV/INF/2016/1, Arak heavy water research reactor, paras 3(ii) and 3(iii)).
[8] The paragraph references in parentheses throughout Sections C and D of this report correspond to the paragraphs of 'Annex I — Nuclear-related measures' of the JCPOA.
[9] HWPP is a facility for the production of heavy water with a nominal design capacity of 16 tonnes of nuclear-grade heavy water per year.
[10] GOV/2016/55, para. 6.
[11] Iran's stock includes nuclear-grade heavy water and its equivalent in different enrichments.
[12] GOV/INF/2016/13.

the nuclear grade heavy water at its destination outside Iran. Since that shipment was made, Iran's stock of heavy water has been no more than 130 metric tonnes. On 14 February 2017, the Agency verified that Iran's stock of heavy water was 124.2 metric tonnes.

8. Iran has not carried out activities related to reprocessing at the Tehran Research Reactor (TRR) and the Molybdenum, Iodine and Xenon Radioisotope Production (MIX) Facility or at any of the other facilities it has declared to the Agency (paras. 18 and 21).[13]

C.2. Activities Related to Enrichment and Fuel

9. At the Fuel Enrichment Plant (FEP) at Natanz, there have been no more than 5060 IR-1 centrifuges installed in 30 cascades, which remain in the configurations in the operating units at the time the JCPOA was agreed (para. 27). Iran has withdrawn 124 IR-1 centrifuges from those held in storage[14] for the replacement of damaged or failed IR-1 centrifuges installed at FEP (para. 29.1).

10. Iran has continued the enrichment of UF_6 at FEP.[15] Iran has not enriched uranium above 3.67% U-235 (para. 28).

11. As previously reported, the Agency, in its letter of 23 August 2016,[16] requested Iran to reassess the quantity of enriched uranium in the process lines (hold up) at the Enriched UO_2 Powder Plant (EUPP) at Esfahan and to revise its report accordingly. In a letter dated 19 February 2017, Iran provided a report to the Agency containing a revised estimate of this quantity. The revised estimate of 99.9 kg of enriched uranium is consistent with the Agency's assessment of the hold up. On 31 January 2017, following the decision of the Joint Commission of 10 January 2017,[17] Iran started feeding depleted uranium through the process lines at EUPP, under Agency verification and monitoring. The estimated amount of enriched uranium in the EUPP equipment and the output material do not count against Iran's enriched uranium stockpile.[18]

12. Throughout the reporting period, Iran's total enriched uranium stockpile has not exceeded 300 kg of UF_6 enriched up to 3.67% U-235 (or the equivalent in different chemical forms) (para. 56). The quantity of 300 kg of UF_6 corresponds to 202.8 kg of uranium.[19]

13. As of 18 February 2017, the quantity of Iran's uranium enriched up to 3.67% U-235 was 101.7 kg,[20] based on the JCPOA and decisions of the Joint Commission.[21]

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[13] Including hot cells at TRR and the MIX facility and shielded cells, referred to in the decision of the Joint Commission of 14 January 2016 (INFCIRC/907).

[14] Para. 16 of this report.

[15] Under the JCPOA, "[f]or 15 years the Natanz enrichment site will be the sole location for all of Iran's uranium enrichment related activities including safeguarded R&D" (para. 72).

[16] GOV/2016/46, para. 10.

[17] INFCIRC/907/Add.1.

[18] Subject to the conditions set out in the decision of the Joint Commission of 10 January 2017.

[19] Considering the standard atomic weight of uranium and fluorine.

[20] Comprising 53.6 kg of uranium in the form of UF_6; 35.9 kg of uranium in the form of UO_2; 9.7 kg of uranium in fuel assemblies and rods; 1.2 kg of uranium as hold up in process lines; and 1.3 kg of uranium in liquid and solid scrap.

14. At the Fordow Fuel Enrichment Plant (FFEP), 1044 IR-1 centrifuges have been maintained in one wing (Unit 2) of the facility (para. 46), of which 1042 IR-1 centrifuges have remained installed in six cascades and two IR-1 centrifuges have remained installed separately for the purpose of conducting "initial research and R&D activities related to stable isotope production".[22] Throughout the reporting period, Iran has not conducted any uranium enrichment or related research and development (R&D) activities, and there has not been any nuclear material at the plant (para. 45).

15. As previously stated,[23] on 16 January 2017, the Director General confirmed that on 15 January 2017 the Agency verified that Iran had taken the actions specified in para. 15.12 of Annex V of the JCPOA. The actions taken by Iran were:

- removal of cascade electrical cabling, individual cascade control cabinets and vacuum pumps from two cascades in one wing of FFEP (Unit 2); and storage of all these excess centrifuges and infrastructure in Hall B of FEP at Natanz under Agency continuous monitoring (para. 47.2); and
- removal of cascade electrical cabling, individual cascade control cabinets, vacuum pumps and centrifuge mounting blocks from the other wing of FFEP (Unit 1); and storage of all these excess centrifuges and infrastructure in Hall B of FEP at Natanz under Agency continuous monitoring (para. 48.2).

16. All centrifuges and associated infrastructure in storage have remained under continuous Agency monitoring (paras 29, 47, 48 and 70).[24] The Agency has continued to have regular access to relevant buildings at Natanz, including all of FEP and the Pilot Fuel Enrichment Plant (PFEP), and performed daily access upon Agency request (para. 71).

17. Iran has conducted its enrichment activities in line with its long term enrichment and R&D enrichment plan, as provided to the Agency on 16 January 2016 (para. 52).

18. On 4 February 2017, the Agency verified the receipt in Iran from another State of the first increment of 5 kg of U_3O_8 enriched up to 20% U-235 contained in partially fabricated TRR fuel plates.[25]

19. Iran has not operated any of its declared facilities for the purpose of reconverting fuel plates or scrap into UF_6, nor has it informed the Agency that it has built any new facilities for such a purpose (para. 58).

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[21] Decisions of the Joint Commission of 6 January and 18 December 2016 (INFCIRC/907), and 10 January 2017 (INFCIRC/907/Add.1).

[22] GOV/2016/46, para. 12.

[23] Note by the Secretariat, 2017/Note 4.

[24] GOV/2016/46, footnote 15.

[25] In June 2016, Iran requested the return to Iran of the first increment of 5 kg of U_3O_8 enriched up to 20% U-235 contained in partially fabricated fuel plates for fabrication of finished fuel elements for the TRR, which it had transferred out of Iran prior to Implementation Day. The Agency notified the Joint Commission and State parties involved that the conditions for the return of the first increment of 5 kg of U_3O_8 enriched up to 20% U-235 had been met (decision of the Joint Commission of 24 December 2015 (INFCIRC/907)).

C.3. Centrifuge Research & Development, Manufacturing and Inventory

20. On 21 January 2017, Iran, under Agency verification and monitoring, began feeding natural UF_6 into a single IR-8 centrifuge for the first time (para. 38). No enriched uranium has been accumulated through enrichment R&D activities, and Iran's enrichment R&D with and without uranium has been conducted using centrifuges within the limits defined in the JCPOA (paras. 32-42).

21. Iran has provided declarations to the Agency of its production and inventory of centrifuge rotor tubes and bellows and permitted the Agency to verify the items in the inventory (para. 80.1). The Agency has conducted continuous monitoring, including through the use of containment and surveillance measures, and verified that the declared equipment has been used for the production of rotor tubes and bellows to manufacture centrifuges only for the activities specified in the JCPOA (para. 80.2). Iran has not produced any IR-1 centrifuges to replace those that have been damaged or failed (para. 62).

22. All declared rotor tubes, bellows and rotor assemblies have been under continuous monitoring by the Agency, including those rotor tubes and bellows manufactured since Implementation Day (para. 70). Iran has manufactured rotor tubes using carbon fibre that has been sampled and tested by the Agency, all of which has been subject to Agency containment and surveillance measures.[26,27]

D. Transparency Measures

23. Iran has continued to permit the Agency to use online enrichment monitors and electronic seals which communicate their status within nuclear sites to Agency inspectors, and to facilitate the automated collection of Agency measurement recordings registered by installed measurement devices (para. 67.1). Iran has issued long-term visas to Agency inspectors designated for Iran as requested by the Agency, provided proper working space for the Agency at nuclear sites and facilitated the use of working space at locations near nuclear sites in Iran (para. 67.2). Iran has accepted additional Agency inspectors designated for Iran (para. 67.3).

24. Iran has continued to permit the Agency to monitor — through measures agreed with Iran, including containment and surveillance measures — that all uranium ore concentrate (UOC) produced in Iran or obtained from any other source is transferred to the Uranium Conversion Facility (UCF) at Esfahan (para. 68). On 8 February 2017, the Agency verified the receipt in Iran of 125.4 metric tonnes of natural uranium in the form of UOC, which was then transferred to UCF. Iran also provided the Agency with all information necessary to enable the Agency to verify the production of UOC and the inventory of UOC produced in Iran or obtained from any other source (para. 69).

[26] Decision of the Joint Commission of 14 January 2016 (INFCIRC/907).
[27] GOV/2016/46, para. 18.

E. Other Relevant Information

25. Iran continues to provisionally apply the Additional Protocol to its Safeguards Agreement in accordance with Article 17(b) of the Additional Protocol, pending its entry into force. The Agency has continued to evaluate Iran's declarations under the Additional Protocol and to conduct complementary accesses under the Additional Protocol to sites and other locations in Iran.

26. During this reporting period, the Agency has attended one meeting of the Procurement Working Group of the Joint Commission (JCPOA, Annex IV — Joint Commission, para. 6.4.6).

F. Summary

27. The Agency continues to verify the non-diversion of declared nuclear material at the nuclear facilities and locations outside facilities where nuclear material is customarily used (LOFs) declared by Iran under its Safeguards Agreement. Evaluations regarding the absence of undeclared nuclear material and activities for Iran remained ongoing.

28. Since Implementation Day, the Agency has been verifying and monitoring the implementation by Iran of its nuclear-related commitments under the JCPOA.

29. The Director General will continue to report as appropriate.